

WHAT IS CLAIMED IS:

1. A method for analyzing a drive system, comprising:
successively applying a plurality of noise signals to the
drive system as input signals, the noise signals covering
different frequency ranges; and
determining a transfer function of a target system within
the drive system in accordance with the noise signals applied
to the drive system in the applying step.
2. The method according to claim 1, wherein the noise
signals have different intensities.
3. The method according to claim 2, further comprising
optimizing the intensities by increasing the intensities in
steps until a maximum value of a limiting parameter of the
drive system is near a limiting value.
4. The method according to claim 1, wherein the noise
signals include noises in several frequency bands that always
begin at a same lower cutoff frequency and end at a different
upper cutoff frequency, the input signal having a widest
frequency band completely covering a frequency range to be
tested.
5. The method according to claim 1, wherein the noise
signals include one of (a) non-overlapping frequency ranges
and (b) frequency ranges that overlap slightly, the frequency
ranges together covering a frequency range to be tested.
6. The method according to claim 1, wherein the transfer
function of the target system in an open control loop is
determined in accordance with difference signals applied to
the target system and corresponding output signals.
7. The method according to claim 6, wherein the
determining step includes evaluating a frequency-dependent

attenuation and a phase shift between the difference signals and the output signals.

8. A device for analyzing a drive system, comprising:
an arrangement configured to successively apply a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges; and
an arrangement configured to determine a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system.

9. A device for analyzing a drive system, comprising:
means for successively applying a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges; and
means for determining a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system.